

8. On a winter's day, the temperature at 6 P.M. was 0°C . Suppose the temperature decreased by 2.5°C each hour until it was -12.5°C . How long did it take to reach this temperature? How do you know?
9. Use a calculator to determine each quotient.
- $20.736 \div (-1.8)$
 - $(-27.94) \div 1.2$
 - $(-84.41) \div (-2.3)$
 - $23.04 \div 4.8$
 - $76.63 \div (-7.5)$
 - $(-0.1081) \div 0.45$
11. To pay for a skiing holiday in Whistler, Paige borrowed \$1450.50 from her parents. She pays back \$30.75 each week.
- How many weeks will it be until Paige is no longer in debt? Justify your answer.
 - How did you use rational numbers to calculate the answer in part a?
12. Determine each quotient.
- $\frac{5}{4} \div \left(-\frac{7}{6}\right)$
 - $\frac{3}{10} \div \frac{12}{5}$
 - $\left(-\frac{3}{4}\right) \div \left(-1\frac{1}{8}\right)$
 - $\left(-4\frac{3}{5}\right) \div \frac{3}{4}$
 - $3\frac{2}{3} \div \left(-2\frac{1}{4}\right)$
 - $3\frac{4}{9} \div 6\frac{1}{3}$
13. A thermometer on a freezer is set at -5.5°C . Each time the freezer door is opened, the temperature increases by 0.3°C . Suppose there is a power outage. How many times can the door be opened before the temperature of the freezer increases to 5°C ? Justify your solution.
14. On one day in January, the temperature changed by -15.4°C in 5.5 h. What was the mean change in temperature per hour?
15. A person has 54 shares in WestJet Airlines. On February 6, 2008, these shares lost \$17.28 in value. What was the change in value of 1 share? How do you know?
16. Suppose each rational number below was divided by $-\frac{2}{3}$. Predict which quotients would be less than $-\frac{1}{2}$. Explain the strategy you used to predict.
- $-\frac{2}{3}$
 - $\frac{1}{3}$
 - $\frac{5}{6}$
 - $\frac{1}{4}$
17. Determine the missing number in each division statement.
- $\square \div 1.25 = -3.6$
 - $\square \div \left(-\frac{3}{4}\right) = \frac{7}{8}$
 - $(-0.5875) \div \square = -0.25$
 - $\frac{68}{15} \div \square = -\frac{4}{5}$
19. Alex and Ellice run in opposite directions from school to their homes. Ellice runs 1.3 km to her home in 7.8 min. Alex runs 630 m to his home in 4.2 min.
- Write division statements using positive and negative rational numbers to represent each student's average speed in metres per minute. What do the positive and negative numbers represent?
 - Who runs at the greater average speed?
20. Write 6 division statements that have a quotient between $-\frac{3}{4}$ and $-\frac{1}{4}$.
21. Which expression below has the greatest value? How can you find out without calculating every answer?
- $-\frac{1}{2} + \left(-\frac{2}{3}\right)$
 - $-\frac{1}{2} - \left(-\frac{2}{3}\right)$
 - $\left(-\frac{1}{2}\right) \times \left(-\frac{2}{3}\right)$
 - $\left(-\frac{1}{2}\right) \div \left(-\frac{2}{3}\right)$